

Message

**From:** customerhelp@viswalab.com [customerhelp@viswalab.com]  
**Sent:** 6/8/2018 12:49:59 PM  
**To:** ho.ControlBunkers@cma-cgm.com; Owner.Letavia@SkyFile.com; @HAM-Inspektion-ver [Inspektion.1@hammonia-reederei.de]  
**Subject:** Report:H180685309 - Specifications Met - LETAVIA (IMO No: 9246683) - MGO-DMALS

**FROM :**  
**VISWA LAB**

**TO :**

Customer Name :	HAMMONIA REEDEREI
ATTN :	TECHNICAL DEPARTMENT
Vessel Name :	LETAVIA (IMO No: 9246683)
VLC Log No :	H180685309
Place & Date Sent :	HOUSTON ; 06-Jun-2018
Date Received at VL :	07-Jun-2018

**CUSTOMER FURNISHED DATA :**

Bunker Port & Date :	BAYPORT, TX-UNITED STATES ; 04-Jun-2018
Bunker Supplier :	NuSTAR ENERGY SERVICES, INC.
Barge :	KIRBY 27775
Sample Grade :	MGO-DMALS
Sample Seal No :	J151454 - Sealed
Bunker Quantity :	130.030 MT
Bunker Density @15°C :	867.1 kg/m3
Bunker Viscosity @40°C :	3.2 cSt
Sulphur Content :	0.069 %
Source of the sample :	MANIFOLD
Sampling Method :	DRIP

**SPECIFIED PARAMETERS FOR MGO-DMALS & TEST RESULTS :**

Parameters	Units	Test Results	Specification Limits
Density @ 15°C	kg/m3	870.0	( 890.0 Max )
viscosity @40°C	cSt	2.71	( 6.00 Max )
Upper Pour Point	°C	-9	( 0 Max )
Carbon Residue	% (mass)	0.00	( 0.30 Max )
Ash	% (mass)	0.003	( 0.010 Max )

Water	% (vol)	0.03	( - Max )
Sulphur	% (mass)	0.073	( 0.100 Max )
Total Sediment Pot.	% (mass)	0.00	( - Max )
Vanadium	ppm	< 1	( - Max )
Al + Si	ppm	< 1	( - Max )
Flash Point	°C	> 70.0	( 60.0 Min )
Calcium	ppm	< 1	( - Max )
Zinc	ppm	< 1	( - Max )
Phosphorus	ppm	< 1	( - Max )

#### ADDITIONAL PARAMETERS :

Parameters	Test Results	Units
API Gravity	31.06	
Sodium	< 1	ppm
Aluminium	< 1	ppm
Silicon	< 1	ppm
Iron	< 1	ppm
Lead	< 1	ppm
Nickel	< 1	ppm
Magnesium	< 1	ppm
Potassium	< 1	ppm
FTIR Screening	PRESENCE OF ESTER PEAKS : ABSENT,FAMES : NEGATIVE	
pH	7.13	

#### CALCULATED VALUES :

Parameters	Computed Val	Units
Net specific energy	42.76	MJ/kg
Gross specific energy	45.49	MJ/kg

#### CONFORMANCE:

The fuel sample tested conforms to Table 1 of ISO 8217:2005 specifications for grade MGO - DMA LS

#### COMMENTS:

Visual appearance of the sample is Clear & Bright

FTIR screening did not indicate the presence of FAMES(biodiesel)

Density was confirmed by repeated analysis.

## SUGGESTIONS & RECOMMENDATIONS TO SHIP OWNERS/OPERATORS/TECHNICAL STAFF

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Temperature at Which Viscosity reaches 2 cSt Is 59°C.

Engine Makers recommend that the Viscosity should not fall below 2 cSt at the engine inlet.

### Questions?

**Viswa Lab Houston;** Tel - +1 713 842 1985; **Email** - customerhelp@viswalab.com

**Viswa Lab Singapore;** Tel - +65 6778 7975; **Email** - singapore@viswalab.com

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